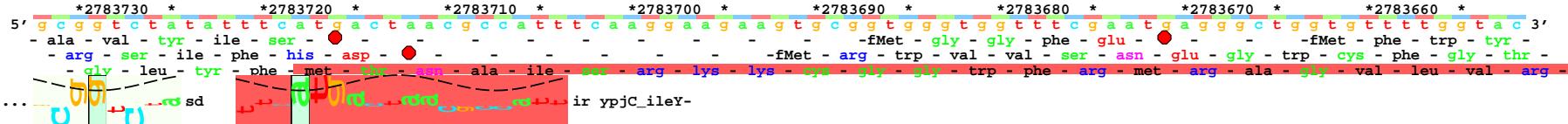
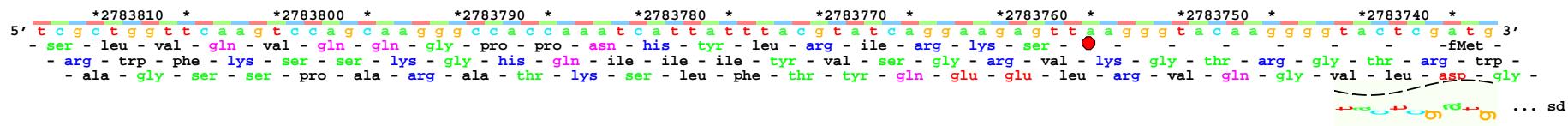
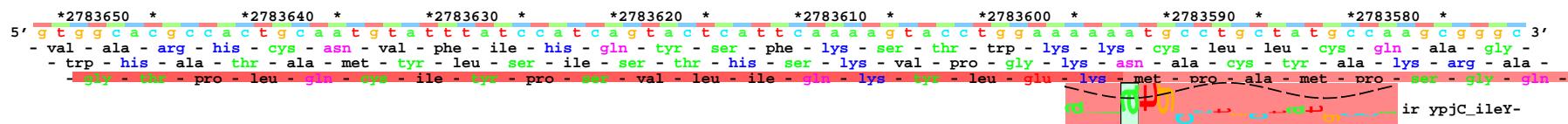


- 1 -

piece 1, NC_000913, ypjC_ileY-, config: linear, direction: -, begin: 2783813, end: 2783014

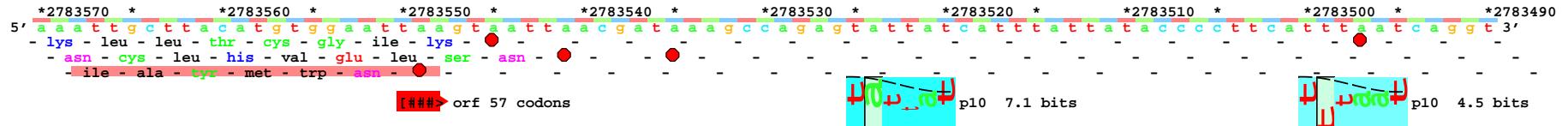


```
sd-(11)-ir 2783718 Gap 3.0 bits  
sd-ir 2783718 ypjC_ileY- total 6.5 bits
```



நீங்கள் தான் முனிசிபல் ஆட்சியர் என்று அறியப்படுகிறீர்கள்.

{sd-(6)-ir 2783592 Gap 4.3 bits
sd-ir 2783592 vpcC ileY total 9.0 bits}



「###> orf 57 codons

1 bits

hits

p35 0.5 bit

p10 6.3 bit

... p3

{-----}

783524 Gap 1

1

p35

5 1.8 bits

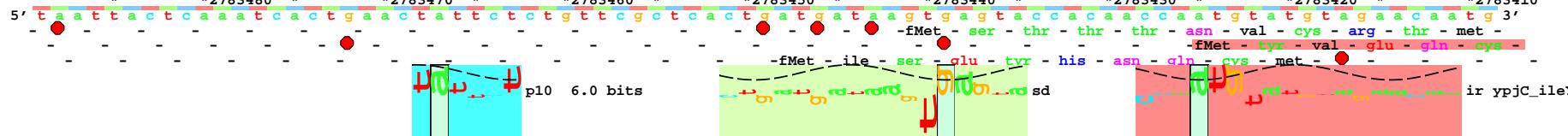
{
|

-p10 2783521
2783521 total

2783499 Gap

* *?

*2783410
t g 3'



{-----} sd-(14)-ir 2783425 Gap 4.9 bits

... p35 1.9 bits

```
{-----} p35-(22)-p10 2783467 Gap 2.3 bits  
----- p35-p10 2783467 total 5.6 bits
```

|-----| sd-ir 2783425 ypjC_ileY- total 5.1 bits

The figure shows a genomic map of the 13360 gene. The top part displays the DNA sequence with transcription start sites indicated by asterisks (*). The bottom part shows the corresponding amino acid sequence. A red circle highlights a stop codon (TAA) at position 13360, which is part of a larger poly-A tail. The sequence starts with fMet and ends with phe.

~~mm~~ OII 23 codons ~~mm~~ OII 20 codons

```
{-----} sd-(6)-ir 2783390 Gap 4.3 bits  
{-----} sd-ir 2783390 ypjC_ileY- total 5.8 bits
```

The diagram illustrates the 2783260 ribozyme's secondary structure, featuring a central hairpin with flanking sequences at both ends. Key features include:

- Catalytic Centers:** Indicated by red dots at positions 2783320, 2783310, 2783300, 2783290, 2783280, 2783270, and 2783250.
- Sequence Labels:** The 5' flanking sequence starts with fMet, followed by tttt. The mature loop contains several amino acid codons: fMet-alanine, methionine-leucine-isoleucine-asparagine-glutamine, arginine-tyrosine, leucine-threonine, asparagine-alanine-isoleucine-glutamate, and a final leucine. The 3' flanking sequence ends with a glutamate residue.
- Color Coding:** Nucleotides are color-coded based on their function: green for structural elements, blue for catalytic centers, and red for specific motifs or residues.

p35 3.7 bits {-----} sd-(10)-ir 2

rf 8 codons p35 4.4 bits ... p36

|-----| sd-dir 2783302 ypjC_fileY- total 9.5 bits
|-----| p10 5.3 bits

```
{----- ... p35-(23)-p10 2783246 Gap  
|----- ... p35-p10 2783246 total 4.8
```

```
{- } p35-(24)-p10 2783302 Gap 2.4 bits  
|-----| p35-p10 2783302 total 6.6 bits
```

```
{----- ... p35-(21)-p10 2783238 Gap  
|----- ... p35-p10 2783238 total 8.9
```

Figure 10. A schematic diagram of the proposed model architecture. The input sequence x is processed by a stack of L layers. Each layer consists of a feature extractor (green), a self-attention module (purple), and a residual connection (blue). The output of each layer is passed through a linear layer (red) before being fed into the next layer. The final output is produced by a linear layer (red).

```
-----} p35-(22)-p10 2783273 Gap 2.3 bits
-----} p35-p10 2783273 total 4.4 bits
          |
          +-----}
          |-----} ... p35-(23)-p10 2783225 Gap
          |-----} ... p35-p10 2783225 total 4.5
          |-----} ... p35-p10 2783236 total 8.3
          |-----} ... p35-(26)-p10 2783233 Gap
```

The figure displays a protein sequence alignment across eight positions (2783240, 2783230, 2783220, 2783210, 2783200, 2783190, 2783180, 2783170) from left to right. The top row shows the sequence with amino acid codons in green, red, blue, and magenta. The bottom row shows the corresponding amino acids: ser, leu, ile, asn, tyr, asn, gly, phe, phe, tyr, his, thr, ala, lys, -, -, -, fMet, phe, ile, lys, phe, asn, ile, pro, val, leu, ile. Red dots above the sequence indicate mutations at positions 2783240, 2783230, 2783210, 2783190, 2783180, and 2783170.

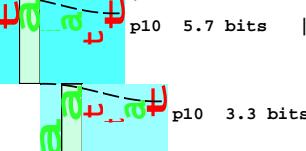
Figure 10 consists of three separate plots, each showing a green bar and a red bar. The first plot is labeled "... p35 4.6 bits", the second is "... p10 1.3 bits", and the third is "... p10 0.7 bits". The green bars represent the total bits available, and the red bars represent the bits used by p35 or p10.

... } p35-(23)-p10 2783246 Gap 1.4 bits  p35 3.9 bits

 p35 4.8 bits

- 3 -

... -----| p35-p10 2783238 total 8.9 bits |----- p35 4.8 bits
... } p35-(23)-p10 2783236 Gap 1.4 bits } p35-(23)-p10 2783225 Gap 1.4 bits
... | p35-p10 2783225 total 4.5 bits |-----
... | p35-p10 2783236 total 8.3 bits |----- p35-(26)-p10 2783233 Gap 3.7 bits
... | p35-p10 2783233 total 6.8 bits |-----



|-----| p35-p10 2783168 total 5.2 bits |----- p35-(24)-p10 2783165 Gap 2.4 bits ... p35-p10 2783165 total 4.8 bits
... } p35-(24)-p10 2783165 Gap 2.4 bits } p35-p10 2783165 total 4.8 bits
... |-----| p35-p10 2783198 Gap 1.4 bits |-----

5' *2783160 *2783150 *2783140 *2783130 *2783120 *2783110 *2783100 *2783090 *
t t a a t t a a a a g t t c a t g c g t a g c a a g c a g t t a a t t g t c a a a t g a g c g t t t t t t a a t g t a c a a 3'
-fMet - arg - ser - lys - fMet - ser - gln - met - ser - val - phe - leu - fMet - lys - gln - leu - met - ser - val - ile - val - ser - asn - glu - arg - phe - phe - ile - val - thr - asn -
p10 4.4 bits |-----| sd-(12)-ir 2783127 Gap 4.0 bits |-----| p35-p10 2783198 total 4.0 bits
p10 4.5 bits |-----| ir ypjC_ileY- |-----| p10 5.9 bits |-----| p35 3.9 bits

|-----| sd-ir 2783127 ypjC_ileY- total 5.2 bits |----- p35 5.6 bits |-----| p35-(23)-p10 2783076 Gap 2.3 bits
... } p35-(24)-p10 2783165 Gap 2.4 bits } p35-p10 2783165 total 4.8 bits |-----| p35-p10 2783076 total 8.1 bits
... |-----| p35-(23)-p10 2783076 Gap 1.4 bits |-----| p35-p10 2783076 total 8.1 bits

5' *2783080 *2783070 *2783060 *2783050 *2783040 *2783030 *2783020 *
a c a g t a a t a a c a t t a a a a a t a g c c a t g t a g a c a t t a a t t g a g g a a t a g c a a t g t a g t t a a a a g c a a 3'
-fMet - ser - asn - ile - lys - asn - ser - his - val - asp - ile - asn - fMet - arg - asn - arg - gln - cys - fMet - leu - val - ser - lys - ser -
p10 5.6 bits |-----| orf 28 codons |-----| NC_000913.ypjC

|-----| p35-(23)-p10 2783076 Gap 1.4 bits |-----| p35-p10 2783076 total 8.1 bits
... -----| p35-p10 2783076 total 8.1 bits |-----| sd-(9)-ir 2783033 Gap 2.3 bits
... -----| sd-ir 2783033 ypjC_ileY- total 14.3 bits |-----| ir ypjC_ileY-



{-----| sd-ir 2783033 ypjC_ileY- total 14.3 bits |-----| ir ypjC_ileY-